



**PACIFIC WEST  
ENERGY LLC**

## **HAWAII ETHANOL OPPORTUNITIES**

**Pacific West Energy LLC**

**February 2006**

**Presentation to**


**The Ethanol Working Group**




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### **Pacific West Energy**

- Formed to develop Hawaii ethanol opportunities
- Concluding interim round of funding for permitting, asset acquisition and detailed engineering for "Maui" & "Kauai" projects.
- Concluded terms for up to \$40 million in equity funding for the two Hawaii projects with large private equity firm.

<div> <div>  <div> <b>PACIFIC WEST ENERGY LLC</b> </div> </div> <div> <b>Key Project Partners</b> </div> </div>		
Responsibility	Responsible Parties	Comments
Construction /Engineering	Parsons / RCI Construction	Major Western US and Hawaii contractor international engineering firm, experienced in heavy industrial construction and process plants (annual revenues in excess of \$2.5 billion).
Process Engineering	Praj Industries	Publicly traded and highly regarded process engineering firm specializing in fuel ethanol plants and production from molasses and sugar based feedstocks. Designed dozens of ethanol plants.
Permitting and Wastewater Engineering	M&E Pacific	Highly regarded national engineering firm with long-time Hawaii presence.
Feedstock Support & Byproduct Sales	Westway	Westway is the largest molasses trader in the world and sub UK based trading company, ED & F Man (with over \$5.0 billion in revenues)).
Ethanol Sales	ED & F Man Alcohol Inc	Highly regarded international ethanol marketer and subsidiary of ED & F Man.

<div> <div>  <div> <b>PACIFIC WEST ENERGY LLC</b> </div> </div> <div> <b>"Maui" Project Specifics</b> </div> </div>	
<ul style="list-style-type: none"> <li>• 10 Million GPY Ethanol Plant</li> <li>• Location to be determined</li> <li>• Numerous landowner and operational issues has lead to delays &amp; uncertainty on expected Maui location</li> <li>• Possibility that project will locate at G&amp;R Kauai location <ul style="list-style-type: none"> <li>– Shared infrastructure (reduced capex requirement)</li> <li>– Shared energy</li> <li>– Shared operating management</li> </ul> </li> </ul>	

### Kauai Project Basics



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- Investment in efficiency improvements in mill & ag operations
- Expansion of sugar cane cultivation (G&R, Kekaha, Grove, etc.)
- Installation of sugar processing equipment (natural & white sugar)
- Modification of boiler
- Installation of a new TG
- Construction of 1 or 2 Ethanol plant(s) – 15 MM GPY & 10 MM GPY
- Potential installation of a new boiler

Total Project Budget \$100 million

### Kauai Project Specifics



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- 15 MM GPY Ethanol Plant – multiple feedstock capable (molasses, sugars and/or grains)
- Direct sugar stream to highest value use (sugar or ethanol)
- Conversion to use bagasse and coal as fuels
  - Project capability of 15+ MW electricity production
- Ethanol Plant zero cost steam and electricity (internally priced)

### Other Opportunities



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- Potential to integrate gasification technology to increase energy yields.
- Examining feasibility of integrating a biodiesel plant into complex
- Potential to convert waste to energy, providing steam requirements of ethanol plant.

All projects have synergies with other operations and energy production or use.

### Project Timeline



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- Complete & file "Maui" ethanol air permit application March 2006)
- Complete & file Kauai ethanol air permit application (April 2006)
- Begin evaluation of (Feb 2006) and installation of TG (July 2006)
- Commission fabrication of critical equipment (May 2006)
- Undertake Kauai boiler modifications (October 2006)
- Begin full ethanol plant construction (September 2006)
- Commission TG on existing boiler (October 2007)
- Commence ethanol operations (2Q 2007)
- Complete & file air permit for new Kauai boiler (March 2007)
- Commission new Kauai boiler (October 2008)